

IN THE CLAIMS

Please replace the claims as filed with the claims set forth below.

1. (Currently Amended) A fibre-reinforced pressure vessel comprising one of a rigid gas- or fluid-tight body overwound with fibre filaments, the fiber-reinforced pressure vessel having whereby no matrix material is used to bind preventing movement of the fibre filaments and the fibre filaments can move freely with respect to one another and the fibre filaments are being wound such that when the pressure vessel is under internal pressure, the fibre filaments are loaded exactly in their longitudinal direction and the rigid body does not substantially contribute to the absorption of mechanical stresses resulting from the internal pressure.

2. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel has an isotenoid shape.

3. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel has a cylindrical shape.

4. (Original) The fibre-reinforced pressure vessel according to claim 1, whereby the pressure vessel is provided with a coating.

5. (Original) The fibre-reinforced pressure vessel according to claim 4, whereby the coating comprises synthetic rubber.

6. (Original) The fibre-reinforced pressure vessel according claim 1 whereby the rigid body is made of high-density polyethene (HDPE) and the fibre filaments are carbon fibres.

7. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the rigid body is made of high-density polyethene (HDPE) and the fibre filaments are glass fibres.

8. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel can withstand a working pressure in the range of 0-5 bar.

9. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel can withstand a working pressure in the range of 0-10 bar.

10. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel can withstand a working pressure in the range of 0-35 bar.

11. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel can withstand a working pressure in the range of 0-100 bar.

12. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel can withstand a working pressure in the range of 0-300 bar.

13. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel can withstand a working pressure in the range of 0-600 bar.

14. (Original) The fibre-reinforced pressure vessel according to claim 8, suitable for use as a gas flask for propane or butane or a mixture thereof for household uses.

15. (Original) The fibre-reinforced pressure vessel according to claim 11 suitable as a fuel tank, in particular for LPG, for use in motor vehicles.

16. (Original) The fibre-reinforced pressure vessel according to claim 12 suitable as a fuel tank for CNG or compressed air.

17. (Original) The fibre-reinforced pressure vessel according to claim 13 suitable for use as a cryogenic gas system in space technology applications.

18. (Original) The fibre-reinforced pressure vessel according to claim 1 whereby the pressure vessel is provided with an appendage, for example one of a closure member or a pressure valve.

19. (Currently Amended) A method of manufacturing a fibre-reinforced pressure vessel comprising one of a rigid gas- or fluid-tight body overwound with fibre filaments, whereby the method comprises the steps of:

a) providing one of a rigid gas- or fluid-tight body, fibre filaments and a winding apparatus;

b) overwinding the rigid body such that the fibre filaments ~~can move freely with respect to one another and the fibre filaments are wound~~ such that when the pressure vessel is under internal pressure the fibre filaments are loaded exactly in their longitudinal direction and the rigid body does not substantially contribute to the absorption of mechanical stresses resulting from the internal pressure; and

whereby no matrix material preventing movement of the fibre filaments relative to one another is provided.

20. (New) The fibre-reinforced pressure vessel according to claim 1, wherein the pressure vessel includes opposite end portions with isotenoid-shaped continuous surfaces and a cylindrical portion connecting said isotenoid end portions, said fibre filaments being wound circumferentially on said cylindrical portion and longitudinally on said end portions.

21. (New) The method of manufacturing according to claim 19, comprising forming the rigid body with end portions constituted by reinforcing members with isotenoid surfaces of unidirectional curvature.

22. (New) The fibre-reinforced pressure vessel according to claim 1, wherein the rigid body has exclusively a positive curvature.

23. (New) A fibre-reinforced pressure vessel comprising:
one of a rigid gas- or fluid-tight body; and
fibre filaments overwinding the body, the fibre filaments being arranged over the body such that when the pressure vessel is under internal pressure the fibre elements support substantially all mechanical stresses resulting from the internal pressure.

24. (New) The fibre-reinforced pressure vessel of claim 23 wherein no matrix material prevents movement of the fibre filaments relative to each other.